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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,276	06/11/2001	Adisak Makkittikul	LANT-P005	3507

7590

12/17/2002

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EXAMINER

TAKEGUCHI, KATHY K

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 12/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/879,276	MAKKITTIKUL ET AL.	
	Examiner	Art Unit	
	Reba I. Elmore	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 6-8, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-14 are presented for examination.

Specification

2. The disclosure is objected to because of the following informalities: on page 8, line 20, needs the following correction 'buffer, and one ~~head~~—[tail] associated with each data flow. A data flow may consist'. Appropriate correction is required.
3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al.
6. Yang teaches the invention (claims 1 and 9) as claimed including a method for caching data within a computer network node, the method steps comprising:

receiving data packets incoming from the network as data entering the controller from the network through a network interface circuit to the receive state machine (e.g., see Figure 2, element 26);

storing the data packets in a first cache until a predetermined amount of data is received as transferring the data from the receive state machine into a receive buffer memory (e.g., see Figure 2, element 210);

transferring the predetermined amount of data in the first cache to a main memory in a single memory operation as a predetermined threshold level of data received in the receive buffer and when access to the system bus is gained, the receive state machine transfers a burst of data of the predetermined amount to be stored in the main memory (e.g., see col. 6, lines 1-22); and,

transferring the predetermined amount of data from the main memory to a second cache in a single memory operation (e.g., see col. 7, lines 13-41).

As to claim 2, Yang teaches forwarding data packets out of the network node from the second cache onto the network as the second cache being the transmit buffer (e.g., see Figure 2 and col. 3, lines 6-13 and col. 7, lines 14-53).

As to claims 3 and 10-11, Yang teaches the predetermined amount of data is comprised of N blocks of data and the size of the block corresponds to a minimum data packet size (e.g., see col. 6, lines 1-22).

As to claim 4, Yang teaches the first cache, the main memory and the second cache act logically as a single first-in-first-out queue as a round robin type of scheduling of alternating between the transmit state machine and the receive state machine for system bus access (e.g., see col. 8, lines 20-59).

As to claims 5 and 12, Yang teaches the data incoming to the memory is comprised of M data flows and the network node is comprised of M multiple first caches, M multiple data storages areas within the main memory buffer and M multiple second caches as there being an

equivalent number to receive buffers to transmit buffers and with the main memory storing blocks of data in the predetermined size which matches the size of the receive buffers and transmit buffers for preventing overflow and underflow conditions of the system (e.g., see col. 2, line 60 to col. 4, line 41).

Allowable Subject Matter

7. Claims 6-8 and 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Elements citing the three different memories, the first cache, the main memory and the second cache, as being random access memories with direct connectivity from the first cache to the second cache when the first and second caches are used as receive and transmit caches for receiving and transmitting data to and from a network to and from a network node thereby having transfers of data directly from the first cache, the receive cache, to the second cache, the transmit cache, without accessing the main memory.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (703) 305-9706. The examiner can normally be reached on M-TH from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2187, Donald Sparks, can be reached for general questions concerning this application at (703) 308-1756. Additionally, the official fax phone number for the art unit is (703) 746-7239.

Art Unit: 2187

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center receptionist whose telephone number is (703) 305-3800/4700.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2187